STORAGE REDUCTION DURING COMPRESSION

ABSTRACT OF THE DISCLOSURE

A technique for compressing video images uses temporary compression of blocks during compression, integrated color rotation of compressed images, direct compression of
5 a composite video signal, and border filters to allow blocks to be compressed independently. Temporary compression reduces storage needed in an integrated circuit. An incoming frame is compressed block-by-block and placed in temporary storage. A corresponding block of a later frame is also compressed. Both blocks are decoded back into the transform domain and the two blocks are compared in the transform domain.
10 Color rotation on compressed color information is integrated with overall compression and is performed upon the chrominance transform pyramids after transformation of the video signal rather than performing a rotation on the raw signal itself. Color rotation is performed at any stage and uses serial multiplication (shift and add) for more efficient processing, rather than using parallel multiplication. A composite video signal including
15 both color and black and white information is compressed directly without separating the color information from the black and white. A sequence of passes separates the luminance and chrominance information from the composite video signal and demodulates the color carrier to separate out color information. Blocks of information are treated independently using a modified 2-6 Biorthogonal filter to reduce complexity, to reduce hardware needed
20 and to reduce blocking artifacts. The technique identifies and compresses composite video, S video, and component video signals, and is applicable to low bit rate video applications.